

On the Coloration of the Optical Elements in Locusta viridissima.

By M. J. CHATIN.

The authors who have treated of the structure of the eye in the Arthropoda, as also in the Invertebrata generally, have contented themselves with mentioning the existence of a pigment of variable tint, constituting the fine partitions which separate the bacillar elements; as to the coloration proper to the latter, it has been misunderstood or regarded as accidental. Former investigations*, however, have enabled me to insist upon the importance of this character, the constancy of which the observation of certain Crustacea showed me, and of which Boll's researches soon afterwards fixed the value.

On recently examining repeatedly the eye of an insect very favourable to such studies, *Locusta viridissima*, Linn., I found arrangements which, as will be seen, deserve to be correlated with the facts to which I have just alluded.

The optical bacilli present the aspect of slender filaments in their lower portion, sensibly dilated in their upper region (near the cone); these filaments are contained in brown sheaths, formed by the pigmentiferous tissue mentioned above. If, by means of suitable reagents (alkalies &c) and by gradual solution, we succeed in breaking the web of this tissue, the bacilli appear out of their sheaths of a fine tender rose-colour. This tint, which is lively in the eye excised from the living animal and immediately observed, soon gradually becomes weaker, whilst the bacillus undergoes a granular alteration; it persists, however, longer at the periphery than towards the central region.

This description, which is a summary of the essential details, suffices to show that the bacilli of the *Locusta* present, in their intimate constitution, great similarity to the same parts studied in the Crustacea; their proper coloration is the same in these different types, and seems thus to tend towards a generalization of which I hope soon to be able to furnish further examples, and [the interest of which it is unnecessary to point out.—*Comptes Rendus*, August 20, 1877, p. 447.

On a new Marsupial from Australia.

By Prof. R. OWEN, F.R.S. &c.

I have received from Australia skins of a male and female small marsupial, combining the dentition of a Hypsiprymnid or kangaroo-rat, with a hind foot of five digits, a small prehensile hallux (i.) being superadded to the four other digits, of which II. and III. are long and slender, IV. and V. of the greater length and strength characteristic of the *Poëphaga*. For this interesting form I propose the generic name *Pleopus*, in reference to the full or type mammalian number of the toes of the hind foot, with the specific name *nudicaudatus*, from the nude scale-clad tail. Figures of the species will be added to the fuller account proposed to be given elsewhere.

* L'Institut, 1876, pp. 125 & 189.